

Replication



Review

How is the structure of the DNA molecule described?

What are the 3 parts that make up a nucleotide?

What is the base-pairing rule?

DNA Replication

Before a cell can divide:

- the DNA must be copied.

The process of copying DNA is called **Replication**.

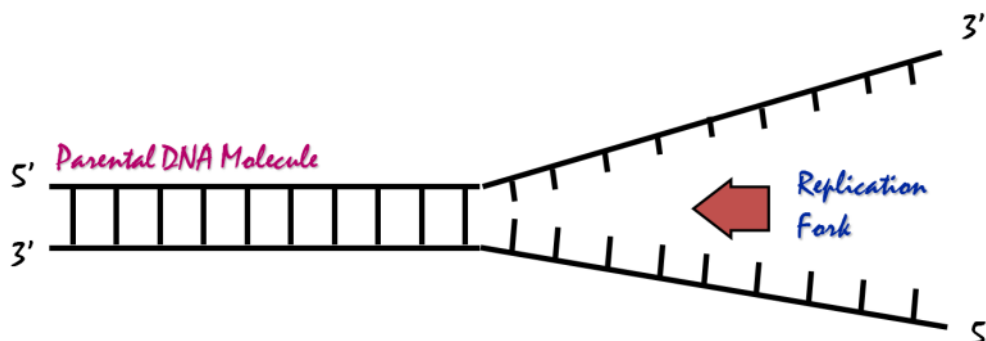
- Replication ensures that each new cell receives an exact copy of the cells genetic information.

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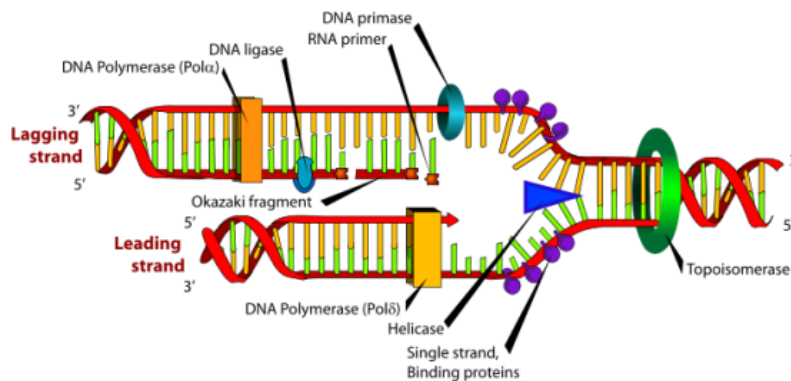
DNA Replication

- During Replication the DNA molecule "untwists" into two strands or replication forks.
- The separation occurs at the hydrogen bonds between the nitrogenous bases.

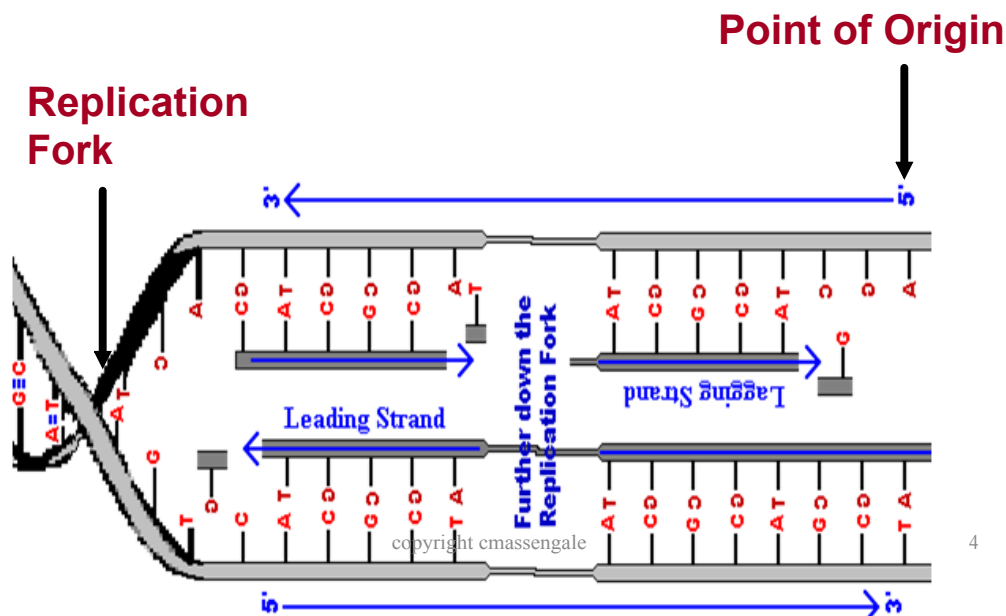


DNA Replication

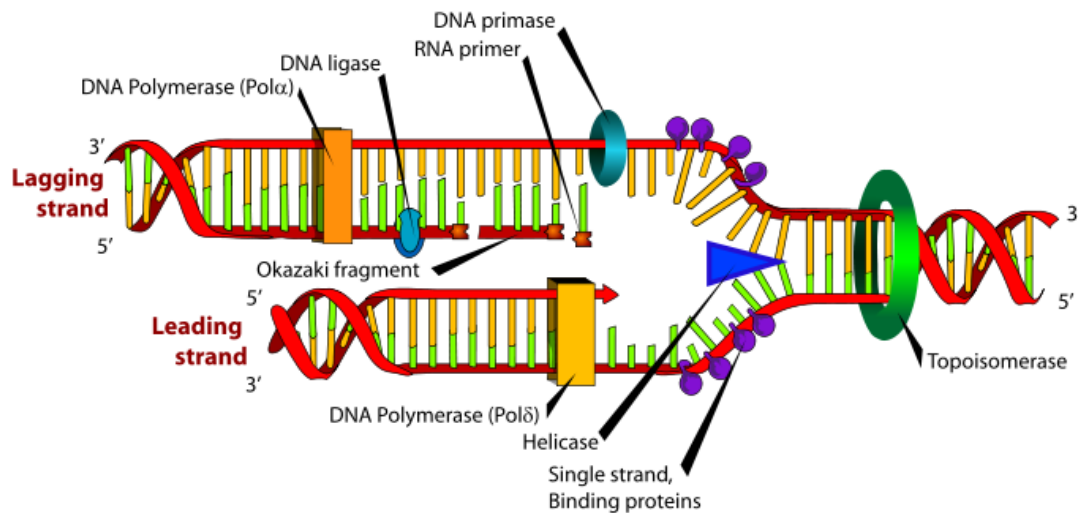
- The separation of the replication fork is accomplished by an enzyme called Helicase.
- The helicase unzips the DNA molecule into two strands



- The original individual strands serve as a template for the building of two new complimentary strands of DNA

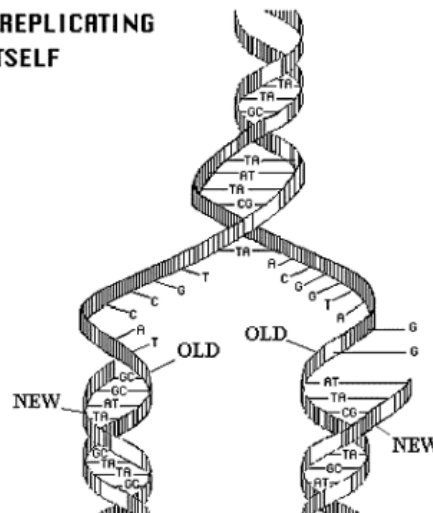


- Polymerase an enzyme, joins new nucleotides to each existing strand according to the base pairing rule:
A-T
G-C



- The two new molecules "re-twist"
- Each new DNA molecule consists of one original strand and 1 new strand
- As a result DNA Replication is said to be semi- conservative

DNA REPLICATING ITSELF



Why is Replication important?

A species could not survive and individuals in the species could not successfully grow and reproduce without DNA replication.

